WHAT IS CLAIMED IS:

1.   A method for correlating MR images with physiological data, the steps comprising:

    a)   providing a physiological data pipeline 200;

    b)   acquiring physiological data 202 through the physiological data pipeline;

    c)   providing an MR data pipeline;

    d)   utilizing data acquired in the physiological data pipeline to trigger the acquisition of data within the MR data pipeline; and

    e)   acquiring MR data through the MR data pipeline;

    wherein a visual display correlation of the physiological data on an MR image is obtained.

2.   The method as recited in claim 1 wherein said physiological data acquisition step includes the step of acquiring all or part of a physiological waveform.

3.   The method as recited in claim 2 wherein said physiological data acquisition step further includes the step of calculating a trigger from data acquired in the physiological data pipeline.

4.   The method as recited in claim 3, including the following step:

    f)   reconstructing MR data within the MR data pipeline.

5.   The method as recited in claim 4, including the following step:

    g)   storing MR data within the MR data pipeline.

6.   The method recited in claim 5, including the following step:

    h)   displaying physiological data and MR data on the same visual display.

7.   A method for correlating MR images with physiological data, the steps comprising:

    a)   providing a physiological data pipeline;

    b)   acquiring physiological data through the physiological data pipeline;

    c)   providing an MR data pipeline;

    d)   providing time synchronization across the physiological

data pipeline and the MR data pipeline to trigger the acquisition of data within the MR data pipeline; and

   e)   acquiring MR data through an MR data pipeline;

wherein a visual display correlation of the physiological data on an MR image is obtained.

8.   The method as recited in claim 7 wherein said physiological data acquisition step includes the step of acquiring all or part of a physiological waveform.

9.   The method as recited in claim 8 wherein said time synchronization providing step includes providing timers and using simplified network time protocol to synchronize said timers.

10.   The method as recited in claim 9, including the following step:

   f)   reconstructing MR data within the MR data pipeline.

11.   The method recited in claim 10, including the following step;

   g)   providing a data store process and storing MR data within the MR data pipeline data store process.

12.   The method recited in claim 11, including the following step:

   h)   providing a separate data conduit for sending physiological data to the data store process.

13.   The method recited in claim 12, including the following step:

   i)   displaying physiological data and MR data on the same visual display.

14.   A system for correlating MR images with physiological data such that a visual display of the physiological data on the MR image is obtained, which comprises:

   a)   a physiological acquisition controller, said physiological acquisition controller including the ability to digitize physiological signals received by it;

   b)   a physiological signal processing unit;

   c)   an application gateway processor;

   d)   a scan control processor for controlling external components of an MR device;

   e)   an acquisition processing system; and

   f)   an operator interface.

15. The image correlation system of claim 14 wherein said physiological signal processing unit includes means for receiving physiological data from the physiological acquisition controller.

16. The image correlation system of claim 15 wherein said physiological signal processing unit includes means for receiving physiological data in the form of a physiological waveform.

17. The image correlation system of claim 16 wherein said physiological signal processing unit further includes means for providing a trigger for data acquisition, said trigger being readable by the application gateway processor.

18. The image correlation system of claim 17 wherein said scan control processor includes means for storing physiological waveform segments and said application gateway processor includes means for notifying the scan control processor that a given waveform segment has been used as a trigger whereby on associated trigger number and timestamp is forwarded to the operator interface.

19. The image correlation system of claim 17 wherein said application gateway processor includes means for providing time synchronization between a physiological waveform chain and an MR image chain.

20. The image correlation system of claim 19 wherein said application gateway processor includes means for providing the scan control processor with the timestamp associated with the original trigger.